

3. The probe of claim 1, further comprising at least two contiguous designate nucleotides bound to an end of the sequence.

4. A set of oligonucleotide probes of claim 1, comprising a plurality of instances of a pattern of universal and designate nucleotides and/or nucleotide analogs.

6. The set of oligonucleotide probes of claim 4, wherein the universal nucleotides and/or nucleotide analogs are selected from the group consisting of 5-nitroindole and 3-nitropyrrole.

7. A set of oligonucleotide probes, comprising a plurality of instances of a sequence of universal and designate nucleotides and/or nucleotide analogs ordered in a pattern, wherein the probes are displayed on a solid support and wherein

(a) the pattern comprises a first string of universal nucleotides and/or nucleotide analogs followed by a first segment, and a second string of universal nucleotides and/or nucleotide analogs followed by a second segment,

(b) the first string and the second string each comprise a universal nucleotide and/or nucleotide analog, and

(c) the first segment and the second segment each comprise a designate nucleotide.

8. A sequencing array, comprising

a substrate, and

a set of oligonucleotide probes disposed thereon, wherein each probe comprises an instance of a pattern of universal and designate nucleotides and/or nucleotide analogs such that the set comprises a plurality of instances of the pattern, and wherein

(a) the pattern comprises a first string of universal nucleotides and/or nucleotide analogs followed by a first segment, and a second string of universal nucleotides and/or nucleotide analogs followed by a second segment,

(b) the first string and the second string each comprise a universal nucleotide and/or nucleotide analog, and

(c) the first segment and the second segment each comprise a designate nucleotide.

10. The array of claim 8, wherein the universal nucleotides and/or nucleotide analogs are selected from the group consisting of 5- nitroindole and 3-nitropyrrole.

11. The array of claim 8, wherein each particular instance is associated with a particular location in the array.

12. The array of claim 8, wherein each probe further comprises a sequence of at least two contiguous designate nucleotides and/or nucleotide analogs bound to an end of the pattern.

20. An oligonucleotide probe, comprising a sequence of universal and designate nucleotides and/or nucleotide analogs ordered in a pattern, wherein

(a) the pattern comprises a first string of universal nucleotides and/or nucleotide analogs, followed by a first segment, and a second string of universal nucleotides and/or nucleotide analogs followed by a second segment,

(b) the first and second strings each comprise two or more consecutive universal nucleotides and/or nucleotide analogs, and

(c) the first and second segments comprise at least one designate nucleotide and/or nucleotide analog.

21. The probe of claim 20, having a universal nucleotide and/or nucleotide analog selected from the group consisting of 5- nitroindole and 3-nitropyrrole.

22. The probe of claim 20, further comprising at least two contiguous designate nucleotides and/or nucleotide analogs bound to an end of the sequence.

23. The probe of claim 20, wherein the universal and designate nucleotides and/or nucleotide analogs are linked by analogs of phosphodiester bonds.

24. The probe of claim 20, wherein the universal and designate nucleotides and/or nucleotide analogs are peptide nucleic acids.